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AUTHOR Perkins, John
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ABSTRACT

Evidence exists that, in the past, phonetic variants functioned as sociolinguistic variables, just as they do today, at least in societies with comparable stratificational patterns. This paper presents the significant details of the sociolinguistic environment within which the beginnings of the Great English Vowel Shift were embedded. An attempt is made to demonstrate how an understanding of the sociolinguistic situation surrounding historic changes leads to an understanding of the transition from earlier to later pronunciations. It is demonstrated that: (1) contemporaneous changes in the social and linguistic profiles of England during the 14th century led to a situation in which two regional dialects were juxtaposed and realigned as social dialects; and (2) the different phonological histories of the convergent dialects provided the raw material for sociolinguistic variation at that particular time, when older sociolinguistic barriers were disintegrating in England. It is hypothesized that the type of cross-dialectal phonological restructuring that has been observed in contemporary settings would have led to the initial phase of the Great Vowel Shift as a matter of course, given the phonetic variation and socio-dialectal alignment pattern that have been reconstructed for Early Fifteenth Century London English. (CLK)

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A Sociolinguistic Glance at the Great Vowel Shift of English

John Perkins

The Great Vowel Shift of English has probably been the focal point for more controversy and speculation among historical phonologists than any other phenomenon in the history of the English language. It is universally agreed that between the stage of the language called "Middle English" and the stage referred to as "Modern English" the following changes occurred in the vowel system of the language:[1]

(a) Late Middle English (LME) ī (Phonetically [i:] was diphthongized by the Fifteenth Century and its nucleus was lowered subsequently to [a], giving modern [aį] by the Seventeenth Century.
(b) LME ū (phonetically [u:]) was also diphthongized by the Fifteenth Century and its nucleus was eventually lowered to [a], giving modern [aų] by the Seventeenth Century.[2]
(c) Subsequent to the diphthongization of LME ī, LME ē (phonetically [e:]) was raised to [i:] in the Fifteenth Century.
(d) Next, LME ē (phonetically [ɛ:]) was raised to [e:], or tensed, in the Late Fifteenth Century.[3]
(e) Subsequent to the diphthongization of LME ū, LME ō (phonetically [o:]) was raised to [u:] in the Early Sixteenth Century.
(f) LME ō, (phonetically [ɔ:]) was raised to [o:] in the Sixteenth Century, which was diphthongized to [oų] in the Seventeenth Century.
(g) Later on, in the Late Seventeenth Century, the new [e:] from LME [ɛ:] was raised even more until it was merged with the [i:] from LME [e:].
(h) At about the same time, Early Modern English [a:]--the result of a lengthening of LME [a] in open syllables--and [aį]--which resulted from a merger of LME ai and ei--were each changed in such ways that they were eventually merged as modern [eį].
(i) Finally, also in the Seventeenth Century, LME [aų] was monophthongized to [ɔ:].

Diagrammatically, the Vowel Shift can be portrayed as a rotation of the long (tense) vowels and diphthongs in articulatory space:

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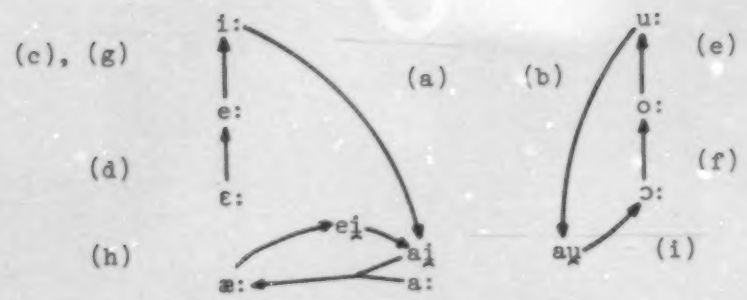

Figure 1.

Philological evidence regarding this series of alterations in the pronunciations of the English vowels was adduced by scholars in the Nineteenth Century, most notably by Ellis (1874); however, it was Otto Jespersen (1909), the originator of the designation "Great Vowel Shift," who first presented an account that considered these changes to be a unified phonological phenomenon. Zachrisson (1913), Wyld (1927, 1936), Kökeritz (1953) and Dobson (1957) have inferred a great deal about the phonetic details of the Vowel Shift from the phonetic accounts of Sixteenth and Seventeenth Century orthoepists and language teachers, as well as Early Modern English misspellings, rhymes and puns.[4] Linguists have been far from unanimous in their interpretation of the evidence. Their disagreement has centered in particular around three points: the chronology of the Vowel Shift, the phonological motivation of the changes, and the phonetic details of the diphthongization of LME [i:] and [u:].

Wyld (1936:144-145) has argued for a much earlier dating of the Vowel Shift than the generally accepted dating which is presented above. His interpretation of Late Middle English variations in spelling leads him to place the beginnings of the Shift in the late Thirteen-Hundreds.

Most authorities agree that the Vowel Shift began with the diphthongization of LME [i:] and [u:] to [ii] and [uu]. Jespersen felt that this change created "gaps" in the phonological system of long vowels which initiated a "drag chain" that pulled the lower monophthongs up to restore the system. Martinet (1955) adopted Jespersen's drag chain hypothesis and explained it as being motivated by an inherent phonological tendency toward the optimal utilization of phonetic space to maintain phonemic contrasts. Luick, on the other hand, regarded the raising of LME [e:] and [o:] as the initial change and hypothesized that this raising initiated a "push chain" effect that crowded LME [i:] and [u:] out of their positions in the vowel pattern. Trnka (1959) has explained the Vowel Shift as being motivated by the disappearance of the phonological correlation of length and a subsequent reorganization of the phonetic vowel system to restore the correlation. More recently, Chomsky and Halle (1968), Jones (1972) and other generative phonologists have argued that the diphthongization of LME [i:] and [u:] and the exchange of the nuclei of the resulting diphthongs [ii] and [uu] with [e:] and [o:] should be understood as brought about by the addition of phonological rules to the grammar of

English. Strangely, generative phonologists have haggled over the adequate formalization of these putative rules to the neglect of the fact that formal constructs such as "rule addition" are not in themselves explanations of sound change. That is, the fact that the rule content of the phonological component of a grammar must be described differently for two different historical stages of a language is merely a reflection of the fact that there is an intervening phonological change.

Stampe (1972 and personal communication), like Trnka (1959), also hypothesizes that the Vowel Shift was a response to the incipient loss of phonemic vowel length in Late Middle English. As he and Lass (1974) have noted, the length contrast was gradually eroded during the history of English by a series of shortenings and lengthenings which Lass has labelled the "Great English Length Conspiracy." These changes are summarized in Table 1.

	$\overset{V}{[-long]} > [+long]$	$\overset{V}{[+long]} > [-long]$
West Germanic Final Lengthening:	$/__\#$ (þū̆ > þū; twă > twā)	
Old English Quantity Adjustment:	$/__ \overset{C}{[resonant]} \overset{C}{[obstruent]}$ (cīld > chĭld; fīndan > fĭndan)	$/__CC \begin{Bmatrix} C \\ VC_1VC_o\# \end{Bmatrix}$ (gōdspell > gŏdspell; (*ænlefan > ĕnlefan)
Middle English Quantity Adjustment: ("Open-Syllable Lengthening")	$/C_o__CVC_o\#$ (ĕten > ēten)	$/__C \begin{Bmatrix} C \\ VC_1VC_o\# \end{Bmatrix}$ (cēpte > kĕpt; mētte > mĕtte) (hāligdæg > hălidai)

Table 1. The Great English Length Conspiracy (after Lass 1974).

According to Stampe, the motivation of this phonological "conspiracy" was the tendency in a stress-timed language such as English toward isochrony, that is, the equalization of the amount of time allotted between stressed syllables. The outcome of the "Length Conspiracy" was the neutralization of the length opposition in all phonological environments save one, namely, in monosyllabic lexical items ending in a single consonant. Stampe maintains that the "tensing" of the remaining long vowels and the concomitant "laxing" of the short vowels had the effect of sharpening and preserving the perceptibility of the contrast between monophthongal vowel phonemes. Furthermore, Stampe (1972) proposes that the Great Vowel Shift can be understood as the product of innate, natural phonological tendencies which are detailed in Miller (1972).

Miller (1972) has theorized that the tensing of long vowels, especially higher ones, is one of a number of innate phonological processes which operate in the central nervous system to adjust phonological features so that paradigmatic contrasts are more clearly defined in speech. She considers diphthongization of tense vowels to be another "natural process" which increases the "coloration," i.e., contrastive properties, of vocalic phonemes. The lowering of diphthongal nuclei is viewed by Miller as a third process which increases the "sonority," i.e., audibility, of the nuclei and, hence, of the phonemic units. A fourth process is the raising of tense non-high vowels, also viewed as a means of increasing their phonological properties.[5] Taken together in the order mentioned, these processes can be used to explain the changes involved in the English Vowel Shift.

Although the diphthongization of LME [i:] and [u:] to [iɪ̯] and [uʊ̯] is generally accepted to have been the first step in the Vowel Shift, several different hypotheses have been proposed regarding the probable intervening pronunciations of the diphthongs as they were changed to [aɪ̯] and [aʊ̯]. The different proposals that have been advanced are distinguished in Figure 2.

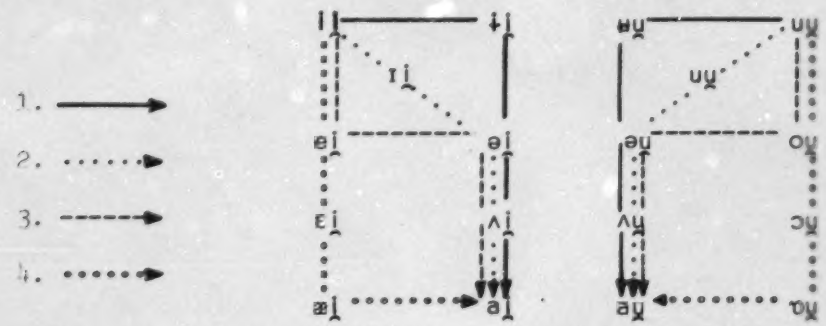

Figure 2.

Wolfe's exhaustive reanalysis of the testimony of the earliest writers on English pronunciation (1972) leads her to the conclusion that only hypothesis 3 is supported by the evidence. Labov, Yaeger and Steiner (1972), however, maintain that their empirical studies of contemporary vowel shifts in progress lend feasibility only to hypothesis 4.

Despite the speculations concerning the phonological factors motivating the Great Vowel Shift, little attention has been focused upon what Labov (1972) has called the "actuation problem," with respect to these changes. In other words, little explanation has been offered as to why the initial changes of [i:] and [u:] occurred when they occurred, and not before. Even if Stampe's theory regarding the causation of the Vowel Shift by innate phonological tendencies is assumed, there remains the problem of explaining why the outputs of certain natural processes were accepted by English-speaking

communities at one particular stage in the history of the language, rather than being repressed as they formerly had been. As Labov (1972) has pointed out, the success of a phonetic change can probably be genuinely understood only if the transition from the earlier pronunciation to the later pronunciation is examined with reference to the social environment within which the change is embedded. Labov (1963, 1966) has produced convincing evidence that alternate phonetic realizations of phonemes play a significant role in marking the social identity of the members of a language community, and that phonological elements which perform this sort of sociolinguistic function are especially amenable to phonetic change. He has shown (Labov 1972) that the members of a community who aspire to higher ascribed status within a group (in whatever terms that status may be defined) will tend to adopt those phonetic variants which are identified as characteristic markers of higher-status speakers. Labov's studies further provide carefully-gathered empirical data which substantiate the long-accepted notion that adoption of pronunciations from one dialect into another characteristically results in the hyperextension of the target variants into environments where they do not actually occur in the speech of the emulated group. In fact, Labov (1966) has gone a step further in suggesting that the generalizing effect of hyperextension is one of the major factors which accelerates the transition from one pronunciation to another.

There is every reason to believe that in the past, phonetic variants functioned as sociolinguistic variables just as they do today, at least in societies with comparable stratificational patterns. The major obstacle to appealing to sociolinguistic factors in attempting to explain past sound changes is the fact that both the phonological variation and the social variation which need to be considered are largely or completely inaccessible to investigation. Where it is, however, possible to reconstruct the social and phonological details of a past age in which a sound change is known to have occurred, it seems clear that significant correlations may be established. The establishment of such correlations is bound to increase our understanding of the actuation and transition problems vis-à-vis particular changes.

In what follows, I will attempt to present the significant details of the sociolinguistic environment within which the beginnings of the Great English Vowel Shift were embedded. I will also try to demonstrate how an understanding of the sociolinguistic situation surrounding historic changes enables us to understand the transition from earlier to later pronunciations.

The Sociolinguistic Situation in Late Medieval England.

From the time of the introduction of feudalism by the Normans in 1066 until the late Thirteenth Century, English society was a rigidly stratified estate system. Authorities on the Norman Occupation of England agree that William the Conqueror replaced the English nobility and clergy virtually in toto with his own French-speaking allies and kinsmen. Loyn (1967) notes that those native

English landowners who survived managed to sustain themselves only by intermarrying with the Normans. This meant, of course, that essentially all the agricultural land, and hence all wealth was concentrated in the hands of French-speaking individuals. The "third-estate," that is, the English and Celtic-speaking farmers and craftsmen who worked for the nobility and clergy in return for protection and sustenance, had no hope for upward social mobility in the first two centuries of the Norman ascendancy. The social barriers to mobility between the classes were, of course, strengthened by the language barrier.

The direct testimony of Medieval English writers indicates that the linguistic divisions of English society continued to conform to the lines of social stratification for many years. Robert of Gloucester, writing in 1300, observes, regarding the Conquerors:

> "...The Normans could speak only their own language then
> [i.e., at the time of the Conquest]
> And spoke French as they did at home and also taught [it to]
> their children;
> So that high men of this land that come from their blood
> All keep to that same language that they brought from home.
> For unless a man knows French, little is thought of him.
> But low men keep to English and to their own speech yet..."
> (Mossé 1968, my translation)

Even though the flow of literature in English never completely ceased, the fact that the written language became much more regionally diversified after the Conquest than it had previously been indicates that there was no prestigious form of the language upon which a literary standard could be based. French spelling conventions replaced native spelling conventions and the native "insular miniscule" script was gradually abandoned in favor of the continental "Carolingian" script. These facts, considered together with the predominance of Norman-French literature, argue that the primary colloquial language in which scribes were accustomed to writing was French, rather than English.

As Jones (1972) and Baugh (1957) point out, however, English society must have become increasingly bilingual as time went on.[7] The following observation is contained in John of Trevisa's English translation (ca. 1368) of Higden's Polychronicon, written about 1327:

> "...Children in school, contrary to the custom and manner of
> all other nations, are compelled to abandon their own
> language and to construe their lessons and their things in
> French, and have since the Normans first came to England.
> Also the children of gentlemen are taught to speak French
> from the time that they are rocked in their cradles and
> know how to talk and play with a child's brooch; and rural
> men want to liken themselves to gentlemen, and apply
> themselves with great diligence to the speaking of French
> in order to be thought more highly of..."
> (Mossé 1968, my translation)

Higden's statement, in addition to the fact that royal proclamations, laws, and parliamentary decrees were written in Norman French, indicates that there was a period in which a type of "diglossia"[8] existed in England. That is, the use of French was considered appropriate for more formal modes of communication, commercial correspondence, and literary usage, while the use of English was relegated to more "humble" modes of communication, for example, the delivery of sermons to the common folk.[9]

There is abundant evidence that the usage of English became more extensive in the Thirteenth Century. It is telling that literature intended for the upper classes began to appear more regularly in English dialects, and that the authors often included either French or English translations of words and phrases used in their texts. For example, in Ancrene Riwle (ca. 1225), a treatise on religious life intended for aristocratic women entering convents, the following English clarifications of French expressions are included (Jespersen 1968:89):

> "...cherité, þet is luve (charity, that is, love)..."
> "...ignoraunce, þet is unwisdom & unwitenesse
> (ignorance, that is, un-wisdom and un-wittingness)..."

La3amon's Brut (ca. 1200), a courtly romance written in English, contains the following French translations of English expressions (Jespersen 1968:89-90).

> "...twelfe iferenen, þe Freinsse heo cleopeden
> dusze pers (twelve companions, which [in] French
> they call "duze pers")..."
> "þat craft: to lokie in þa lufte, þe craft
> is ihote astronomie in oþer kunnes speche
> (that craft: to gaze into the sky; which craft
> is called "astronomy" in another sort of speech)..."

Baugh (1957) has amassed a large body of documentation which indicates that there was a language shift from French to English among the nobility during the late Thirteenth and early Fourteenth Centuries. The dating of French loans into English by Jespersen and Koszal (Jespersen 1968:87) shows clearly that the greatest influx of French lexical items occurred between the years 1251 and 1400. In 1258, King Henry III issued a royal proclamation, The Provisions of Oxford, to the nobility in English as well as French. This was the first known use of English in royal communication following the Conquest. In the introduction to his important work Speculum Vitae (1325), William of Nassyngton declared:

> "...In the English tongue I shall talk to you,
> If you will bear with me so long.
> No Latin will I speak or waste,
> But English, which men use most,

Which each man can understand,
Who is born in England;
For that language is most pronounced,
As well among learned as uneducated...
Both learned and uneducated, old and young,
All understand the English tongue..."

It is even more strongly indicative of the language shift that in ca. 1285 Walter of Bibbesworth published a manual intended to teach French to the Children of English aristocrats, which enjoyed wide circulation. In 1332 Parliament issued a decree urging that "...all lords, barons, knights, and honest men of good towns should exercise care and diligence to teach their children the French language..." (Baugh 1957:166). French was by that time obviously not the native language of the younger generation of English aristocrats.

There were significant political and economic changes in the Twelfth and Thirteenth Centuries which conspired to bring about these changes in the sociolinguistic profile of England. Political disputes between the Central French and Anglo-Norman kings precipitated a gradual alientation of the English nobility from the French culture. A long series of wars ensued between France and England during which English landowners came increasingly to identify themselves as Englishmen rather than Frenchmen. This process of reidentification was hastened by the fact that after the loss of Normandy to the Central French Crown, both the English and French kings demanded, in 1244, that Norman nobles pledge allegiance to one crown or the other. Anglo-Norman landowners were thus forced to relinquish their property on one side of the English Channel.

It is also noteworthy that Central French eclipsed Norman French as the prestige dialect of French Culture. The fact that the French loanwords which came into English after ca. 1300 are from the Central French dialect (Baugh 1957) indicates that this shift in prestige was responded to even by the Anglo-Normans.

During the period when the nobility were abandoning French, there began a great transformation in the social and economic structure of England.[10] One factor which led to this transformation was the wooltrade with the Continent. The great demand for British wool that developed in Thirteenth Century Europe had three direct effects on English society. First, it put money into the hands of the peasantry as well as the landowners. "bondsmen" (or peasant farmers) were free to raise sheep and sell their wool. Some of the land-owning nobility and churchmen (or "landlords") were willing to commute the work owed them by their peasants in exchange for rent payments, which freed some bondsmen for other pursuits. Secondly, the wooltrade created an opportunity for the peasants now freed from the soil to become wool merchants. The number of wool merchants grew large enough in the early Fourteenth Century so that they organized mercantile associations to protect and advance their common interests. The third effect which the wool trade had was that it led to the increased growth of the towns, which were important

as wool-collection points. London was a particularly important focal point for the wool trade, because it was there that the "Staple", or great wool-merchants' exchange was established.

A second great factor in this restructuring of English society was the catastrophic epidemic of bubonic plague that swept the Island in the years 1348 and 1349. At least one-third of the population of England died in the Black Plague, which resulted in a severe labor shortage on the great country estates and in the towns. This put the surviving peasantry in a bargaining position which they were quick to take advantage of. They were able to demand wages as well as more land for their own use in exchange for labor. They became so bold in their demands that the wage level soared as they were able to strike from time to time. Some peasants were able to accumulate large tracts of adjoining fields which had been left unattended by the death of their less fortunate neighbors. The rise in wages compelled some nobles and churchmen to lease some of their property to the more industrious farmers, who were thus able to employ laborers themselves. For the first time, many bondsmen were able to buy their freedom and own property, and a new class of landed commoners developed.

A third development with great consequences for English society was the rapid growth of the textile industry, which occurred as the European upper classes came to value English cloth and to demand a great supply of it. A variety of specialized crafts were needed to produce standardized-quality cloth in large quantities. Accordingly, there arose a new class of capitalist entrepreneurs to organize the manufacture of cloth in towns and villages. In the Fourteenth Century, the craftsmen in the towns organized themselves into guilds. The entrepreneurs became an important faction in the Parliament, for the nobility turned to them to finance the armies which they sent to loot France to replenish their own wealth.

Thus, by the end of the Fourteenth Century profound and rapid changes had occurred in English society. In less than three generations, a new wealthy middle class of landowning commoners, merchants and manufacturers had come into existence. Many of these men were able to afford an education for their sons, who became an important political force in the following generations. The evolution of the modern system of social stratification out of the old feudal order was well under way.

The elevation in status of the common Englishman engendered an elevation of the importance of his language as a medium of commerce and government. The Great Death had an additional consequence for the status of English. It brought about the replacement of French by English in the schools. Nearly three-fourths of the clergy, including those in the teaching orders, died in the epidemic and later recurrences of the plague, and they were largely replaced by English-speaking individuals. John of Trevisa (1385), in an addendum to his translation of Higden's Polychronicon (cited above), noted that the use of French in the schools was declining in favor of English, principally due to the efforts of two Oxford school-

masters, John Cornwall and Richard Pencrich (Baugh 1957:179). This is reflected in the fact that explicit regulations were established at monastery schools, colleges and universities ordering the use of French or Latin among the students. At the same time, however, Parliament issued a decree (1362) requiring the use of English rather than French in the courts of law.

With the evaporation of the sharp linguistic distinction which had formerly existed between the feudal castes in England at exactly the time when a competitive middle class was emerging, it seems reasonable to assume that new linguistic distinctions arose to maintain the social distance between the upper class and the well-to-do middle class. Hodges (1964:131) observes that

> "...In the more rigid stratification systems of the past... social-class position and style of life were more congruent and manifest. And when dislocations occurred, when occasional merchants enjoyed greater wealth or power than occasional aristocrats, a visibly different style of life was often the only manner in which impoverished noblemen could effectively confirm their superior status.
>
> "Dislocations of this sort were expecially rife when, during the 'commercial revolution', the balance of power in western Europe shifted from the disintegrating feudal estates to the burgeoning cities. Wealth and political influence flowed into the hands of the urban bourgeoisie..."

We can feel confident in assuming that any noticeable linguistic differences between the language of the upper class would have been ready targets for exploitation as markers of relative social status.

The Dialects of the Upper and Middle Classes of Medieval London.

In attempting to define more precisely the sociolinguistic variables which led to the early transitions toward Modern English pronunciation, it is important to consider the dialectal composition of London in the Fourteenth and Fifteenth Centuries. By the Thirteen-Hundreds, London had developed into one of the important commercial centers of the Western World. It was by far the most important city in England, not only because it was the hub of economic activity, but also because the Parliament was established there. Anglicists have long agreed that London English eventually came to serve as the basis for the literary standard which emerged in the Late Fifteenth and Early Sixteenth Centuries (Wyld 1927; Baugh 1957; Jones 1972). As Wyld observed, however, the development of London English involved a mixing of regional dialects within which one must acknowledge the probable emergence of social variation of the type observed in urban centers today (Wyld 1927:140-143, 146-150).

Across a gap of six centuries, we cannot hope to establish with absolute certainty the phonetic details of the variations that existed in Early London English; nor can we pretend to be able to discern with absolute clarity the social stratification of phonetic

variables across classes as linguists have succeeded in doing with respect to modern urban communities (Labov 1966; Trudgill 1974; Wolfram 1970, inter alia). The phonetic details are greatly obscured by the inconsistency of Late Middle English spelling and the lack of phonetic descriptions of English from before 1569 (Hart's An Orthographie). Our picture of the sociolinguistic distribution of phonological variants is likewise vague, owing to the absence of prescriptive statements about pronunciation from English literature until 1531 (Elyot's Gouernour). It is, however, possible to draw inferences about the phonetic variation that was probable in London English at the time in question by considering the phonological details of the dialects which were juxtaposed in the capital by the socio-economic developments traced above. Philological studies and demographic investigation that have been undertaken enable us to infer which dialects were brought together, and how these dialects were associated with different classes.

Through an extensive examination of public records, Ekwall (1956) has established that the middle class of Fourteenth and Fifteenth-Century London was composed largely of immigrants from the East Midlands, which was the great wool-producing area. Furthermore, his study shows that East Midland people occupied many influential positions as clerks, lawyers, pleaders, judges, public officials and parish priests (p. LXIII). It is therefore highly probable that the variety of speech most characteristically associated with the successful middle class had East Midland features.

There were, of course, other dialectal influences on the language of London. Wyld (1927:140-142) has found that the indigenous city dialect was probably Southeastern in type in the Thirteenth Century. But the literary language of the Fourteenth and Fifteenth Centuries shows great influence from the Central Southern dialect area. It seems reasonable to assume that this was due to the fact that the Royal Court in Middlesex and Oxford University, which was the primary center of learning, were both located in that dialect region. The language of royal proclamations and the language of London city documents alike exhibit Central Southern inflections and orthographic conventions (Chambers and Daunt 1931). The Fifteenth-Century London Chronicle also shows this type of dialect, even in the portion known to have been written by an East Midlander, Mayor William Gregory (Kjerrström 1946:17-18). The language in the works of Geoffrey Chaucer (1340-1400), the Court poet, is of this Southern variety as well, although his rhymes indicate a certain amount of phonological interference from the indigenous speech of the City (Wyld 1927:94, 109; Baugh 1957: 233). It is therefore highly likely that the variety of speech most strongly associated with the upper classes had the phonological characteristics of the Central Southern dialect.

Phonetic Variation in the Speech of Late Medieval London.

A comparison of the phonological systems of the juxtaposed

East Midland and Central Southern dialects reveals that they differed principally with respect to those lexical items that contained front vowels and upgliding diphthongs with frontal nuclei. Apparently, the vocalic systems of the two dialects were virtually identical with regard to the number and quality of their phonetic contrasts. Figure 3 represents the probable long vocalic system shared at the end of the Thirteenth Century, based upon the available knowledge about phonological developments in ME. (Wyld 1927, 1937; Mossé 1968; Prins 1974).

i:	ɪj	iu			ui	u:
e:	ɛj					o:
ɛ:	æi̯	ɛu̯		ɔi̯	ɔu̯	ɔ:
			a:	au̯		ɒu̯

Figure 3.

Figure 3 involves the assumption that the palatalized velar fricative [ɣ̟] (< Pre-English *[g]) and the voiceless palatal fricative [ç] (< Pre-English *[x]) had already by Late ME times been vocalized and merged as a palatal approximant [j]. The orthographic evidence for this vocalization dates from the Early Fourteenth Century (Prins 1974:76). Figure 3 also entails the assumption that the quantity distinction had been neutralized in the nuclei of upgliding diphthongs. There seems to be no orthographic evidence that contradicts this assumption.

It should be mentioned in passing that the exact qualities of the diphthongal nuclei of Late ME are unsure. The diphthong represented here as [æi̯] developed from OE [æg] and [ɛg] early in the ME Period, and was alternatively spelled ay and ey (Prins 1974:91). Traditionally, it has been assumed that these spellings indicate that the nucleus of [ɛi̯] was retracted in London English, and that there was a merger of these diphthongs as [ai̯]. But it is equally likely that this merged diphthong was [æi̯], since it is very likely that the letter a represented [æ] in isolation. What is absolutely clear from the spelling evidence is that this diphthong was different from the diphthong represented here as [ɛj], because the spellings ay, ey were used for the former, while the spellings egh, eȝ, eigh, eiȝ, eygh, eyȝ, eh and ey were used to represent the latter. This diphthong, in turn, was kept distinct from the diphthong represented here as [ɪj], which was consistently spelled in ME as ygh, igh, yȝ, iȝ, ye.[11] In light of the fact that the sequences [ix], [ixt], [ext] occurred in closed syllables in ME and the sequence [æx] occurred in antepenultimate syllables or closed syllables prior to vocalization, it is likely that the nuclei of the upgliding diphthongs were lax (Cf. Table 1).

Although their phonetic vowel systems were congruent, the dialects in question diverged with respect to the distributions of these segments in their lexicons. These divergences were the result of historical differences in the instantiations of the processes of breaking, palatal umlaut, lowering and raising. The correspondences of Table 2 illustrate these distributional differences.

Table 2. Correspondences between the front vowels and front diphthongs of Central-Southern and East-Midland Middle English, ca. 1300.

Pre-English	Central-Southern		East-Midland		Modern Reflex
*rixt	B,L,S,G	rɛjt	B,L,S,G	rɛjt	'right'
*gesixiθu	B,U,S,G	rɪjt	B,S,G	sɪjt	'sight'
*gewixiθu	B,U,S,G	wɪjt	B,S,G	wɪjt	'weight'
*sixiθa	B,U,S,G	sɪjθ	B,S,G	sɪjθ	'sees'
*fixtiθa	B,U,S,G	fɪjt	B,S,G	fɪjt	'fights' (V)
*li:xt	B,L,S,G	lɛjt	B,S,G	lɪjt	'light' (Adj)
*li:xtira	B,U,S,G	lɪjter	B,S,G	lɪjter	'lighter'
*li:xtjan	B,U,S,G	lɪjten	B,S,G	lɪjten	'to lighten'
*li:oxt	L,S,G	lɛjt	S,G	lɪjt	'light' (N)
*li:oxtjan	U,S,G	lɪjten	S,G	lɪjten	'to lighten'
*knext	B,R,S,G	knɪjt	B,R,S,G	knɪjt	'knight'
*knextas	B,S,G	knɛjtes	B,S,G	knɛjtes	'knights'
*fextan	B,S,G	fɛjten	B,S,G	fɛjten	'to fight'
*sexan	B,S,C	se:n	B,S,C	se:n	'to see'
*hæ:x	B,S,G	hɛj	R,B,S,G	hɛj	'high'
*næ:x	B,S,G	nɛj	R,B,S,G	nɛj	'nigh'
*hæ:xira	B,U,S,G	hɪjer	R,B,S,G	hɛjer	'higher'
*hæ:xista	B,U,S,G	hɪjest	R,B,S,G	hɛjest	'highest'
*mæxt	B,S,G	mɛjt	B,S,G	mɛjt	'might' (N)
*næxt	B,S,G	nɛjt	B,S,G	nɛjt	'night'
*æxta	B,S,G	ɛjt	B,S,G	ɛjt	'eight'
*mæxtig	B,U,S,G	mɪjti	B,U,G	mɛjti	'mighty'
*brigdel	G	brɪjdel	G	brɪjdel	'bridle'
*nigon	G	nɪjn	G	nɪjn	'nine'
*bugjan	U,Ur,G	bɪjen	U,Ur,G	bɪjen	'to buy'
*de:gen	G	dɛjen	G	dɛjen	'to die'
*le:gen	G	lɛjen	G	lɛjen	'to lie'
*fle:gen	G	flɛjen	G	flɛjen	'to fly'
*ɛ:agen	S,G	ɛjen	S,G	ɛjen	'eyes'
*hɛ:arjan	U,S	hi:ren	U,S	he:ren	'to hear'
*he:r		he:r		he:r	'here'
*geldan	B,Lg	ji:lden	Lg	je:lden	'to yield'
*skeld	B,Lg	ji:ld	Lg	je:ld	'shield'
*swi:n		swi:n		swi:n	'swine'
*blind	Lg	bli:nd	Lg	bli:nd	'blind'
*mu:siz	U,Ur	mi:s	U,Ur	mi:s	'mice'
*dæg	G(R)	dæj(dɛj)	G(R)	dæj(dɛj)	'day'
*mæg	G(R)	mæj(mɛj)	G(R)	mæj(mɛj)	'may'

Table 2. (continued)

*weg	G(L)	wɛj(wæj)	G(L)	wɛj(wæj)	'way'
*regn	G(L)	rɛjn(ræjn)	G(L)	rɛjn(ræjn)	'rain'
*græ:g	G(R)	græj(grɛj)	G(R)	græj(grɛj)	'grey'
*dæ:d	(R)	dæ:d(dɛ:d)	(R)	dæ:d(dɛ:d)	'dead'
*stelan	Lg	stɛ:len	Lg	stɛ:len	'to steal'

In this table, the upper-case initials refer to the historic vowel changes which occurred to produce the Middle English forms represented:

B = Breaking, i.e., diphthongization of a front vowel before a velar fricative (and of a mid front vowel following a palatal in the Southern dialect).
L = Lowering of a diphthong nucleus.
R = Raising of a diphthong nucleus.
S = Smoothing, i.e., monophthongization of a diphthong.
U = Palatal Umlaut, i.e., fronting (and/or raising) of a back vowel before a syllable containing [i] or [j].
Ur = Unrounding.
Lg = Lengthening (Cf. Table 1).
G = Glide Formation, i.e., vocalization of [ɣ] from [g].

Central Southern (CS) has [ɛj] where East Midland (EM) has [ɪj] in lexical items containing the reflex of merged Pre-English (PE) *[i:x] and *[i:ox] when not in the position for palatal umlaut. This difference arose because OE [i:o]--both derived from PE *[i:] by breaking before *[x] and directly inherited--was lowered in CSOE ("West Saxon") but not lowered in EMOE ("Anglian"). The resulting CS [e:o] and EM [i:o] were subsequently smoothed to [e:] and [i:], respectively. At the same time, CS and EM agree in having [ɪj] in those lexical items reflecting PE *[i:x] and *[i:ox] in position for palatal umlaut, i.e., preceding *[i] or *[j] in the next syllable.

CS also has [ɪj] in contrast to EM [ɛj] in lexical items reflecting PE *[æ:x] and *[æx] positioned for umlaut. In CSOE, breaking, umlaut and smoothing produced *[ɛ:ax]/[ɛax] > [i:ɛx]/[iɛx] > [i:x]/[ix], while in EM OE, umlaut raised PE *[æ:x] and *[æx] to *[e:x] and *[ex], which were broken, then smoothed back to EM [e:x]/[ex]. At the same time, however, CS and EM agree in having [ɛj] as the reflex of PE *[æ:x] and *[æx] in those lexical items which did not undergo palatal umlaut. Also, [ɛj] is shared as the reflex of PE *[e:g] and *[ɛ:ag].

Finally, CS had [i:] contrasting with EM [e:] in some common lexical items. In CSOE, *[ɛ:a] was umlauted to [i:ɛ] and later smoothed to [i:], whereas umlauted *[ɛ:a] gave [e:] in EMOE, which was not further altered. The vowel [i:] also resulted in CS from the breaking of PE *[e:] to [i:ɛ] following palatalized obstruents, with subsequent smoothing. In EMOE, this development did not occur. Once again, there were also lexical items which agreed in having [e:] as the reflex of PE *[e:] and [i:] as the reflex of PE *[i:], umlauted *[u:] and lengthened *[i] (Cf. Table 1).

Spellings from the first half of the Fourteenth Century indicate that there was a lowering of the diphthong [ɪj] to something phonetically close to [ɛj] in the area within the thumb-shaped isogloss marked on Map 1 (Serjeantson 1927; Wyld 1927; Oakden 1930; Prins 1974). Moreover, Serjeantson's survey of place-name spellings (1927) shows that the spellings indicative of this lowering were statistically most prevalent and earliest attested within the Central Southern counties. This suggests strongly that the lowering of [ɪj] began first in that area. The diphthong [ɛj], which had formerly been written with alternative spellings in which the nucleus was represented by e, came to be written in this area with spellings in which the nucleus was represented by i or the equivalent y. Thus the spellings igh, ygh, i3, y3, and ye came to be used to represent the historical developments of both ME [ɪj] and ME [ɛj] in the Central Southern area. This spelling convention was spread in the second half of the Fourteenth Century to London, where it appears in the manuscripts of Chaucer's works (Prins 1974). Later, it appeared in the London trade-guild documents (Chambers and Daunt 1931), official chronicle (Kjerrström 1946) and mercantile correspondence of the middle-class Cely Family (Malden 1900). In addition, it appeared outside London in the correspondence written by the educated members of the middle-class landowning Paston Family of Norfolk, in the East Midlands (Davis 1971).

Map 1. Area of Early 14th-Century i/y-spellings in lexical items with etymological [ɛj] from OE *ǣʒe/ǣag*. (after Oakden 1930).

The traditional interpretation of these spellings, proposed by Serjeantson (1927), Wyld (1927), Oakden (1930) and Prins (1974), is that they straightforwardly represent a raising of the nucleus of the diphthong [ɛj] in the central counties. Wyld and Prins go on to hypothesize that the raised pronunciation was spread into London English. Thus the reflexes of ME [ɛj] and ME [i:] were supposedly merged in the prestige dialect, from which the merged pronunciation [ɪi̯] was eventually disseminated into the other dialects. In support of this hypothesis, Wyld (1927), following Wild (1915), asserts that Chaucer, reflecting the prestige dialect, consistently rhymed words containing the reflex of ME [ɛj] with words containing the reflex of ME [i:], although his scribes uniformly used the "traditional" spelling conventions which represented the nucleus of the diphthong as e. Prins (1974) adheres to Wyld's contentions about Chaucer's rhymes, although he recognises the fact that Chaucer's scribes actually used alternative spellings to represent ME [ej], in which the nucleus could be written with i/y, as well as with e.

However, the detailed analysis of Chaucer's rhymes contained in Masui 1964 reveals that Chaucer actually rhymed words containing the reflex of ME [ɛj] with words containing [æi̯] as well as with words containing [i:]. For example, the nominative plural eyen ~ yen 'eyes' (< PE *[ɛ:agen])--which was rhymed with the infinitive deyen ~ dyen 'to die' (< PE *[de:gen])--was rhymed with the French loans espyen ~ aspyen ~ spyen 'to spy' (< OF espier) and cryen 'to cry' (< OF crier), both of which contained ME [i:], in Troilus and Criseyde (Masui 1964:141). The same form, eyen, was also rhymed with the Southern preterite plural form seyen '(they) saw', pronounced [sɛjen], in The Book of the Duchess (Masui 1964:141). The singular preterite form, variously spelled seigh, sigh, sy, say, was rhymed with day, way, may, and array in The Canterbury Tales (Masui 1964:140-141) and with to say in The Book of the Duchess (Masui 1964:140-141). All of these forms contained [æi̯]. It might be suggested that the plural preterite form contained [ɪj], while the singular preterite form contained [ɛj], so that [ɪj] was rhymed with [i:], while [ɛj] was rhymed with [æi̯]. This argument is obviated, however, by the fact that the singular form not only was rhymed with words containing [æi̯], but also was rhymed with words containing the reflex of ME [ɛj], as was the plural form. For instance, the preterite singular was rhymed with heigh, hey, high, hih (ME [hɛj]) in the manuscripts of The Canterbury Tales (Masui 1964:140-141). The implications of these rhymes can perhaps be better understood if the rhymes are viewed schematically, as in Table 3.

Table 3. Rhymes of words from the works of Chaucer. Lines indicate attested rhymes (based on Masui 1964).

Reflecting ME [i:]	Reflecting ME [ɛj]	Reflecting ME [æi]
espyen ~ aspyen ~ spyen	deyen ~ dyen eyen ~ yen	
cryen	seyen;	seigh ~ sigh ~ sy ~ say—day, way, may, say, array heigh ~ high ~ hih ~ hey

It is clear that the situation in Chaucer's speech cannot be as easily explained as has been traditionally assumed. The fact that Chaucer rhymed words containing the reflex of ME [ɛj] (henceforth referred to as "(ej)-class words") with words containing the reflex of ME [æi] (henceforth designated as "(æi)-class words") strongly suggests that Chaucer used, or was familiar with a pronunciation for (ej)-class lexical items in which there was a diphthong with a non-high nucleus phonetically similar to [æi], most probably a retention of ME [ɛj]. The rhymes of (ej)-class words with words containing the reflex of ME [i:] ("(i:)-class words") are open to three explanations. One possibility is that Chaucer was familiar with, or possibly used, a variant pronunciation for (ej)-class lexical items in which the nucleus was raised to [i] and thus rhymable with the nucleus of (i:)-class words. The second possibility is that Chaucer was familiar with, or used, a variant pronunciation for (i:)-class words in which the syllable nucleus had been diphthongized and lowered to something phonetically close to [ɛj]. The third possibility is that the vowel of (i:)-class words had been categorically changed to a diphthong phonetically close to [ɛj] in Chaucer's dialect. The alternative analyses envisioned are compared graphically in Figure 4.

Alternative One:	Alternative Two:	Alternative Three:
(i:)--[i:] (or [ɪi])	[i:] ~ [ɛj]	[ɛj]
(ej)--[ɛj] ~ [ɪj]	[ɛj]	[ɛj]

Figure 4. Alternative analyses of the rhymes in the works of Chaucer.

Alternative One provides partial support for the traditional hypothesis of Wyld and Prins, if we assume the Chaucer's rhymes represent an intervening period when the pronunciation of (ej) was variable before it was categorically changed to [ɪj] and subsequently merged with [ɪi] ([i:]). However, this interpretation forces us to believe that the diphthong [ɛj] was first raised to [ɪi], then later lowered (along with the reflex of ME [i:]) back to [ɛi], as the Vowel

Shift moved it toward [aɪ]. This hypothesis seems to be motivated principally by the fact that it allows all Modern English cases of [aɪ] to be uniformly traced back to earlier [ɪi].

Alternative Two is equally feasible, if not more feasible. It can be explained, too, as an intermediate stage of development extant in the speech of Chaucer's time while the reflexes of ME [i:] and [ɪj] were being lowered to merge with [ɛj]. In the end, the situation depicted in Alternative Three would have resulted. This hypothesis does not entail believing that ME [ɛj] was raised to [ɪi] and subsequently relowered to [ɛi]. Figure 5 depicts these alternatives schematically.

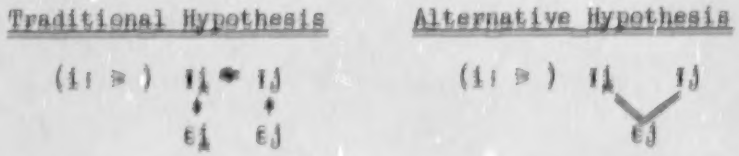

Figure 5.

The second hypothesis is equally supported by the i/y-spellings for (ej)-class lexical items if we regard these as "reverse spellings". That is, we can explain the spellings ygh, igh, etc. as having been extended to lexical items containing the diphthong [ɛj] because these spellings had been retained as conventional representations for the reflex of ME [ɪj], even after it had been lowered to [ɛj] or something phonetically close to [ɛj]. Thus the spellings with y/i were available as orthographic representations of [ɛj] regardless of its etymological origin.[12]

It appears from the evidence that the spellings ygh, igh, etc. were not used to write the reflex of ME [i:] in the Central Southern area in the first half of the Fourteenth Century, but confined to use for representing the reflex of ME [ɪj]. This indicates that in that dialect the reflexes of ME [i:] and [ɪj] were still phonetically distinct. That is, the lowering to [ɛj] affected the reflex of [ɛj] but not the reflex of [i:]. We cannot dismiss from consideration the possibility that the lowering of ME [ɪj] was influenced by phonological interference from the vocalic system of Anglo-Norman French. As has been observed above, there were no doubt many influential individuals at Oxford and the Royal Court in the Early Thirteen-Hundreds whose primary language was Anglo-Norman, but who also spoke English. Price (1971) reports the front-vowel system diagrammed in Figure 6 for Anglo-Norman. It is obvious from Figure 6 that the front-vowel systems were qualitatively quite similar, except for the fact that Anglo-Norman had no upgliding diphthong with a high front nucleus. The closest phonological element available for substitution by speakers whose primary language was Anglo-Norman was the diphthong [ɛj].[13]

Anglo-Norman			CSME			
i			i:	i	ɪj	
e	ɛi		e:	e	ɛj	
ɛ	æi	(ɛi)	ɛ:	ɛ	æi	(ɛi)

Figure 6. Anglo-Norman and CSME phonetic front-vowel systems.

Regardless of the validity of this speculation, the fact remains that in the CS dialect the lowering came about in lexical items reflecting ME [ɪj]. The results of this change, applied to the examples of Table 2, are displayed in Table 4. This would, of course, have brought about a situation in London English where [ɪj] and [ɛj] were heard as variant pronunciations in (ij)-class lexical items. The dialects in contact there would have agreed in sharing the diphthong [ɛj] in some common lexical items, while they differed with respect to many other lexical items in which CS had [ɛj], whereas EM had [ɪj]. These differences in pronunciation were no doubt conspicuous, especially since they were correlated with differences in social status. Specifically, the pronunciation [ɛj] in (ij)-class words would have been identified with the upper classes and the educated, who were associated with the Central Southern dialect. The contrasting [ɪj] pronunciation, on the other hand, was likely identified with the middle-class, who, as we have seen, were probably associated with the East Midland variety of English.

Table 4. Correspondences between (ij) and (ej)-class words in the Central Southern and East Midland dialects, ca. 1350.

sɪjt; sɪjθ; fɪjt >	sɛjt; sɛjθ; fɛjt	sɛjt; sɛjθ; fɛjt
wɪjt >	wɛjt	wɪjt
	lɛjt	lɪjt
lɪjter; lɪjten	lɛjter; lɛjten	lɪjter; lɪjten
	rɛjt	rɛjt
knɪjt >	knɛjt	knɪjt
	knɛjtes; fɛjt	knɛjtes; fɛjt
	hɛj; nɛj	hɛj; nɛj
hɪjer; hɪjest >	hɛjer; hɛjest	hɛjer; hɛjest
mɪjti >	mɛjti	mɛjti
	dɛjen; lɛjen; flɛjen	dɛjen; lɛjen; flɛjen
	ɛjen	ɛjen
bɪjen >	bɛjen	bɪjen

As we have also observed in the data of Table 2, these two varieties also differed in their phonetic realizations of certain lexical items containing the merged reflex of PE *[e:] and *[ɛ:a], while they agreed in the case of other lexical items. Thus,

correspondences of the types shown in Table 4 existed for what I will label (e:)-class words.

Table 5. Correspondences between (e:)-class lexical items in the Central Southern and East Midland dialects, ca. 1350.

Central Southern	East Midland
hi:ren	he:ren
ʝi:lden	ʝe:lden
ʃi:ld	ʃe:ld
te:θ	te:θ
he:r	he:r

Hyperextension and the beginnings of the Great Vowel Shift.

These considerations lead to the conclusion that the phonetic variants of (ij)-class and (e:)-class words would have been likely candidates for exploitation as phonological markers of social status within the sociolinguistic context that has been reconstructed for Fourteenth-Century London. The hypothesized social stratification of the variables (ij) and (e:) is summarized in Figure 7.

	Upper Class		Middle Class
(ij):	[ɛj]	~	[ɪj]
(e:):	[i:]	~	[e:]

Figure 7. Social stratification of (ij) and (e:) in the English of 14th-Century London.

If the hypothesized sociolinguistic variation had truly existed, one would expect that the upwardly-mobile class of speakers would have tended to adopt the variants associated with higher social status, at least in some speech styles. As mentioned above, the i/y-spellings for (ej)-class words which are indicative of the lowering of [ɪj] are plainly evidenced in London writings associated with the middle class by the beginning of the Fifteenth Century. Examples of such spellings from London documents from 1384-1428 (Chambers and Daunt 1931) and the London Chronicles from before 1467 (Kjerrström 1946) are given in Table 6.

Table 6. Spellings of (ej)-class words from middle-class writings of 15th-Century London.

For	[nɛj]	'nigh'	: nigh	beside:	negh, neigh-, neygh-
	[hɛj]	'high'	: high		hei3e, hey(e)
	[nɛjt]	'night'	: night, ny3t		
	[rɛjt]	'right'	: right, ryht, ry3t		

In addition, the (ij)-class lexical item [wɪjt] is found spelled veyght(e) as well as wyght, whyghte, whyte in the London documents (Chambers and Daunt 1931). There is also orthographic evidence of the same sort that indicates that the [ɛj]-variant spread outside the London area in the Fifteenth Century. Table 7 contains examples taken from the autograph letters of the Paston Family of Norfolk (Davis 1971).

Table 7. Spellings of (ej)-class words found in middle-class East Midland writings of the 15th Century.

For	[mɛjti]:	myghty	(Wm. Paston I)
		mighti	(John Paston I)
		myty	(Wm. Paston II)
	[knɛjtəs]:	knythys	(Wm. Paston II)
	[rɛjt]:	ryght, ryth	(John Paston I)
		ryth	(Wm. Paston II)

In essence, I am proposing that middle-class speakers who were upwardly mobile added to their grammars "adaptive rules" of the type described in Andersen 1973:773 ff. Such rules have the effect of modifying the output of a speaker's native phonological component in certain social contexts. For the case in point, the adaptive rules could be formalized as in Figure 8.

Lowering Rule:

$$\begin{bmatrix} +\text{voc} \\ -\text{cons} \\ +\text{high} \\ -\text{low} \\ -\text{back} \\ -\text{tense} \end{bmatrix} \rightarrow [-\text{high}] \; / \; __ \; \begin{bmatrix} -\text{voc} \\ -\text{cons} \\ -\text{back} \end{bmatrix}$$

Raising Rule:

$$\begin{bmatrix} +\text{voc} \\ -\text{cons} \\ -\text{high} \\ -\text{low} \\ -\text{back} \\ +\text{tense} \end{bmatrix} \rightarrow [+\text{high}] \; / \; __ \; \left[\overline{+\text{long}}\right]$$

Figure 8. Adaptive rules of Lowering and Raising proposed for middle-class speakers of 15th-Century English.

It has been mentioned already that recent research concerning contemporary sound changes by Labov and others has shown that there is a tendency among upwardly-mobile speakers of lower social status to "hypercorrect", i.e., hyperextend the phonetic variants which they identify with higher social standing. In the situation described, one would expect that the addition of adaptive rules to the grammar would result in precisely this kind of hyperextension. This follows

from the fact that the speakers who were attempting to affect the phonological characteristics of another dialect would surely experience some uncertainty about the lexical environments in which the "target" variants would actually be used by the native speakers of the emulated speech variety. Again, there is orthographic evidence from the middle-class writings of the Fifteenth Century which indicates that this type of hyperextension did in fact occur.[14]

The i/y-spellings which were used to represent the diphthong [ɛj] are found in the writings of the Paston Family in lexical items that contained etymological [i:]. For example, the word 'write' (< OE [wri:tan]) is spelled wryth, writh by John Paston I and William Paston II (who consistently metathesized h--their version of gh--and t, e.g., in ryth 'right'). This can be taken to indicate that the reflex of ME [i:], which had very possibly been diphthongized to [iɪ̯] by some speakers, was phonetically identified with the diphthong [ɪj] by some and thus "incorrectly" lowered to [ɛj] just as [ɪj] was. From the point of view of those speakers who perceived and pronounced the reflexes of ME [ɪj] and [i:] as phonetically equivalent, it would have been logical to hyperextend the variant [ɛj], as a marker of higher status, to all lexical items which they perceived as containing the socially "inferior" phonetic variant [ɪj]. Such speakers could not, of course, have been aware of the differing historical origins of the phonetic segments which they perceived as merged. This hyperextension would have had the effect of substituting [ɛj] for [ɪj] (=[ɪj] and [iɪ̯]) in all lexical items. The hyperextension may well have proceeded gradually by a process of lexical diffusion, rather than categorically. That is, the adaptive lowering rule might have been gradually extended through a hierarchy of favorable phonetic environments. To establish this process would, however, take a much more thorough philological investigation than is possible within the scope of this paper, if, indeed, it were possible at all.

The line of development which has been suggested is depicted graphically in Figure 9.

	CS Dialect	Middle-Class London Dialect
(ij)-class words:	[ɪj] • [ɛj]	[ɪj] • [ɛj]
(i:)-class words:	[i:]	[iɪ̯] • [ɛj]

Figure 9. Hypercorrective extension of the variant [ɛj] in Early Modern English.

If this type of development had actually occurred, one would expect to find examples in Fifteenth-Century writings where the spelling y/i, traditionally used to represent [i:], was employed to represent the diphthong [ɛj] or diphthongs phonetically similar to [ɛj] as a reverse spelling. And, in fact, such spellings are attested in the London documents already cited (Chambers and Daunt 1931).

Table 8. y/i-spellings for (ej) and (æj)-class lexical items in 15th-Century London English.

For	[nɛj]	'nigh' :	ny-
	[lɛjer]	'liar' :	lyere
	[sæint]	'saint':	synt

Also there appear phonetic spellings in which the reflex of ME [i:] is written ey, a spelling adopted in the Later ME Period for (ej)-class words, when gh was replaced by y in many manuscripts. These spellings are exemplified in Table 9.

Table 9. ey-spellings for (i:)-class lexical items found in 15th-Century English documents.

For ME	[pi:nen]	'to pine' :	peynen	(Kjerrström 1946)
ME	[twi:s]	'twice' :	tweys	(Chambers and Daunt 1931)

The same reasoning would lead us to expect that the higher-status variant [i:] for (e:)-class words would have been hyperextended to all (e:)-class lexical items eventually, regardless of their etymologies. In this instance, too, upwardly-mobile speakers who were adapting their phonological output would have been unaware of the historical differences between those lexical items in which the higher-status variety had [i:] in contrast to their [e:], and the lexical items in which both varieties had [e:]. To them it would merely have been conspicuous that higher-status speakers often said [i:] where they said [e:].

Fifteenth-Century writings again contain orthographic evidence of the hyperextension. In Table 10 examples are given in which the spelling y, traditionally used for (i:)-class words, is employed to represent the nucleus of (e:)-class words. These examples are drawn from the section of the London Chronicles written by Major William Gregory (Kjerrström 1946) and from the correspondence written for the Paston Family by an estate employee named John Wykes (Davis 1971).

Table 10. y-spellings in (e:)-class words taken from middle-class writings of the 15th Century.

For	[agre:d]	'agreed'	:	agryed	
	[de:meθ]	'(he) deems'	:	dymeth	
	[he:r]	'here'	:	hyre	(John Wykes)
	[ke:p]	'keep'	:	kype	
	[spe:d]	'speed'	:	spyde	
	[we:pɪŋg]	'weeping'	:	wyping	
	[de:r]	'deer'	:	dyre	
	[ste:pel].	'steeple'	:	stypylle	(William Gregory)
	[sle:vəs]	'sleeves'	:	slyvys	

The addition of the adaptive rules of lowering and raising to the grammars of adult speakers of Early Modern English and their subsequent hyperextension would have led to a sociolinguistic context within which the natural processes of lowering and raising proposed by Miller (1972) and Stampe (1972) could be actuated in the speech of the younger generation, rather than suppressed as in the speech of earlier generations. The lowering process, shown in Figure 10, would have had the effect of substituting the pronunciation [ɛj] for the adult pronunciation [ɪj] in those dialects where the high upgliding diphthong existed in (ɪj)-class words. The raising process, also portrayed in Figure 10, would have had the effect of substituting [i:] for the adult pronunciation [e:]. In both instances, the substitutions produced by the operation of the proposed natural processes would have been precisely those phonetic variants which were more highly-valued in the social milieu of upwardly-mobile, more prestigious adult speakers.

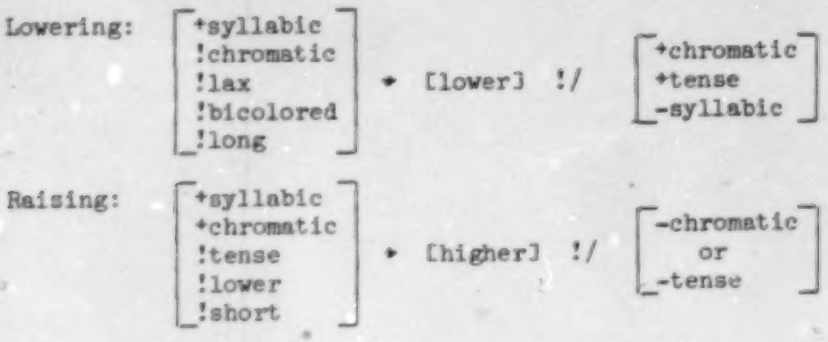

Figure 10. The natural processes of Lowering and Raising (based on Miller 1973).[15]

Concluding remarks.

This paper had dealt with only two of the series of changes involved in the Great Vowel Shift of English, by way of example. The same approach, however, could be applied to solve the transition and embedding problems for the other changes involved in the Vowel Shift. In fact, the later stages of the Vowel Shift could be even more easily analyzed because more overt sociolinguistic information and more transparent orthographic evidence is available with regard to them. The sociolinguistic variation involved in the raising of ME [ɛ:] to Modern English [i:] has been alluded to by Wyld (1927; 1933), Kökeritz (1953), Weinreich, et al. (1968), and Labov (1972). There is an obvious correlation between the changes of the front vowels and diphthongs and the changes of the back vowels and diphthongs which has not been dealt with here. However, the type of analysis which Labov (1966, 1972) proposed to explain the correlated raising of (eh) and (oh) in New York City English, viewing them as systematically connected developments, could plausibly be combined

with philological analysis to account for the concomitant developments of ME [i:] and [u:], and ME [e:] and [o:].

It has been shown that the contemporaneous changes in the social and linguistic profiles of England during the Fourteenth Century led to a situation where two regional dialects with sizeable numbers of speakers were juxtaposed and realigned as social dialects. Furthermore, it has been demonstrated that the different phonological histories of the convergent dialects provided the raw material for sociolinguistic variation at that particular point in time when older sociolinguistic barriers were disintegrating in England. Finally, it has been hypothesized that the type of cross-dialectal phonological restructuring that has been observed in contemporary settings would have led to the initial phase of the Great Vowel Shift of English as a matter of course, given the phonetic variation and socio-dialectal alignment pattern that have been reconstructed for Early Fifteenth Century London English.

Footnotes

1. Based on Wright and Wright (1924).

2. Except when u preceded the labials m or p or followed w or y, giving the exceptions room < rūm, stoop < stoupe, droop < droupen, tomb < toumbe, cooper < couper(e), wound (noun) < wundian, you, your (in which ou was a ME spelling for [u:]). Cf. Prins (1974:130).

3. Except when ē preceded the anterior stops or fricatives /d, t, θ, f, v/, in the following lexical exceptions: dread, breath, spread, wet, thread, sweat, shed, bread, dead, death, head, deaf, red, get, stead, heaven, tread, heavy, fret. Cf. Prins (1974:141).

4. The philological evidence bearing upon the individual changes has been succinctly assembled in Prins (1974) and the orthoepic evidence is critically reviewed in Wolfe (1972).

5. Stampe (1973) presents a more detailed picture of the theory of natural processes, and Miller (1973) relates this theory to the explanation of numerous context-free sound changes.

6. Thus, Wolfe's conclusions support the consensus of Horn (1908), Jespersen (1909), Luick (1900, 1914-1940), Ekwall (1914), Zachrisson (1927), Wyld (1937), Chomsky and Halle (1968), Stampe (1972) and Miller (1972). Labov, Yaeger, and Steiner's conclusions support the view shared by Ellis (1874), Sweet (1888) and Orton (1974). Proponents of hypothesis 1 are Dobson (1957), Stockwell (1952), McCawley (1969) and Bailey (1969). Proposal 2 is the analysis advanced by Kökeritz (1953) and Prins (1974).

7. Or trilingual, if Latin is assumed to have been widely spoken.

8. Or "triglossia", if it is assumed that certain types of communication were conducted exclusively in Latin.

9. Ferguson (1959) describes similar linguistic situations that exist in contemporary bilingual societies.

10. An excellent, detailed account of the development of English society is contained in Trevelyan 1942, from which the sketch presented here is drawn.

11. The characters i and y were used interchangeably for [i:] and [i] in Late OE and in ME, with a preference shown for y. The digraph gh and the letter 3 were used interchangeably for post-vocalic [j]. In Late ME, y became an additional alternative spelling for [j].

12. This situation is perfectly analogous to the case of the "spurious" diphthongs of Classical Greek, discussed in Buck 1955 and Allen 1974.

13. Pope (1952) thinks it is possible that Anglo-Norman [ɛi̯] had already been monophthongized to [ɛ:] by the time in question, at least in the speech of some individuals; however, Price is confident that [ɛi̯] remained, at least in open syllables, i.e., the same position in which ME [ɪj] occurred after vocalization of [ɣ].

14. Note that I am here assuming, like others who have dealt with cross-dialectal "borrowing" as a source of sound change, that adult speakers are capable of imitating the phonetic details of another dialect. As far as I know, this assumption has never been empirically investigated. Such an investigation is the subject of my forthcoming doctoral dissertation. Here the matter is not debated because there seems to be no reason to believe that the dialects under consideration differed significantly with respect to the phonetic segments in question.

15. In Miller's formalism, the symbol ! means "especially when", and the term "chromatic" means palatal or labial, i.e., front or rounded. "Bicolored" means both palatal and labial.

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